

## REMARKS

Claim 1 has been amended to include a weight range in subparagraph A)a) of from 1 to 50% for the monohydric aralkyl alcohol (see page 4, lines 13-16 of the specification) and to include nymphs and eggs as well as ectoparasites; a new subparagraph A)b) has been inserted to limit the compositions of the invention to those which prevent the ectoparasites from closing their breathing apparatuses (see e.g. page 6, lines 15-19 and page 9, line 14-page 10, line 6); former subparagraphs A)b and A)c) have been changed to A)c) and A)d) respectively; and paragraphs B) and C) have been amended to include nymphs and eggs.

Claims 3, 8, 13-15, 18-20, 22-27, 33-35 and 39 have their dependencies changed to claim 1 instead of claim 2.

Claim 8 has been amended to include “C<sub>1</sub>-C<sub>4</sub> alkyl” (see page 7, line 11).

In addition, claim 14 has been amended to add the phrases “most of” and the phrase “and their nymphs”; in claims 19 and 40, the word “effective” has been added since the compositions of the invention could conceivably contain substances having some slight pesticidal activity. The new term “effective pesticidal component” is meant to exclude components that have or are known to have significant pesticidal activities against ectoparasites; the word “process” has been deleted from claim 35; the dependency of claim 36 has been changed from claim 15 to claim 35; in claim 41 a quantity limitation has been deleted; and claims 37 and 38 have been cancelled as unnecessary in view of claims 14 and 17.

Page 7 of the specification has been amended to delete an unnecessary comma.

An Information Disclosure Statement together with an Information Disclosure

Citation is enclosed to include a reference that has recently come to applicant's attention.

This reference, the Lover et al patent (U.S. 4,368,207) does disclose benzyl alcohol as a pediculicide and/or ovicide among a large number of other alcohols but then proceeds to prove in Table I in column 3 that benzyl alcohol as a pediculicide is essentially ineffective, except at 100% concentration, where it still was only 90% effective. In a 25% solution in water it had no effectiveness whatsoever, and in a 15% concentration with 25% isopropanol and 60% water, it was only 5% effective.

In Table II in column 4, benzyl alcohol had an ovicidal rating of 100 in 100% benzyl alcohol and also in a 25% solution in water, but only 29 at a 15% concentration (with 25% isopropanol and 60% water).

In Table II in column 4 of the Lover patent, activity against mites (another ectoparasite) is shown, but only at 100% concentration.

It is also to be noted that in column 5 none of the "typical formulations" contained benzyl alcohol.

See also column 2, lines 8-11 where it is stated that "accordingly, when both pediculicidal and ovicidal activity is desired, it is preferred to employ an unsubstituted alkyl alcohol having log p values of 2.13-5.1". Benzyl alcohol and other monohydric aralkyl alcohols are not "unsubstituted alkyl alcohol(s)", and benzyl alcohol has a p value of 1.10. Here again, Lover directs away from the use of benzyl alcohol.

Clearly the above results direct one skilled in this art away from the use of benzyl alcohol as a pediculicide.

Moreover, the present claims as amended relate to an invention not taught or suggested by the Lover reference.

With respect to claim 1 as amended, the limitations not taught or suggested by the Lover reference are as follows:

1. The limitation in paragraph A)a) of a weight range of monohydric aralkyl alcohol of from 1 to 50%. Lover shows that even at 100% concentration benzyl alcohol is only 90% effective as a pediculicide. Applicant has shown extremely high effectiveness levels for the different compositions of the invention. See e.g. Example 15 on pages 24-27 where a composition containing only 5% by weight of benzyl alcohol (Example 1 composition) produced kill rates of greater than 99% against lice. See also Example 16 on pages 27-30 where a composition of the invention also containing only 5% by weight of benzyl alcohol (Example 2 composition) produced a kill rate of 100% against lice.
2. Newly added Subparagraph A)b) in amended claim 1 wherein the compositions are formulated to prevent the ectoparasites from obtaining air through their breathing apparatuses. It has been discovered that the combination of the pesticidal activity of the aralkyl alcohols of the invention when present in compositions that suffocate the ectoparasites provide very high kill rates (over 99%) in short contact times. The aralkyl alcohols have been found to prevent the ectoparasites from closing their breathing apparatuses (see e.g. page 6 lines 15-19), and this effect combined with the suffocating effect of compositions that prevent air from entering the

ectoparasites' breathing apparatuses (spiracles in lice) results in these very high kill rates. There is of course no teaching or suggestion in Lover for the concept of using compositions that suffocate the ectoparasites (see e.g. col. 2 lines 25-30 where it is stated that "Any pharmaceutically acceptable carrier" can be used.

3. The limitation in subparagraph A)c) in claim 1 where it was discovered that these very high kill rates are obtained when both the hair and skin in the infected areas are completely saturated with the compositions of the invention. Here again there is no such disclosure in the Lover reference and clearly not with respect to this limitation applied to the compositions of the present invention.

It should also be noted as stated above that very short contact times of from 2 to 10 minutes are generally sufficient to achieve these very high kill rates. See e.g. page 5, line 17-page 6, line 2.

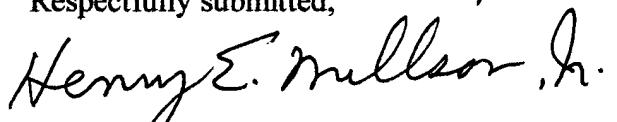
It should further be noted that the presently claimed compositions will function effectively even if the ectoparasites become resistant to the pesticidal activity of the monohydric aralkyl alcohols since they cannot become resistant to asphyxiation, which can provide a kill rate greater than 99%, and usually 100% (see page 10, lines 7-11). There is no such teaching or suggestion in the Lover reference that would lead to this concept.

In addition, many of the dependent claims contain additional limitations not disclosed by the Lover reference, such as the substantially air-impermeable barrier composition of claim 2; the time periods of claims 3-7, 43, and 44; the gel form of

13; the method of claims 15 and 16; the limitation in claim 19; the additional components of claims 20 and 21; the weight limitations of claims 22-27; the time frames for step C) of claims 33 and 34; the kill rates of claims 35 and 36; the prevention of spiracle closing of claim 39; and the various limitations in claims 40-43.

In view of the amendments to the claims and the above discussion, allowance of claims 1-36 and 39-44 as amended is respectfully solicited.

Respectfully submitted,



Henry E. Millson, Jr.  
Reg. No. 18,980  
675 Golden Hawk Drive  
Prescott, Arizona 86301  
phone and fax (928) 445-2453